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| <b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>   |   | Docket Number (Optional)<br><br><b>1035-471</b> |
|  | Application Number<br><br><b>10/670,194</b> | Filed<br><br><b>September 26, 2003</b>          |
|  | First Named Inventor<br><br><b>KIMURA</b>   |   |
|  | Art Unit<br><br><b>2811</b>                 | Examiner<br><br><b>Im, Junghwa</b>              |
| <p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s).<br/>Note: No more than five (5) pages may be provided.</p>   |   |   |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>I am the</p> <p><input type="checkbox"/> Applicant/Inventor</p> <p><input type="checkbox"/> Assignee of record of the entire interest. See 37 C.F.R. § 3.71. Statement under 37 C.F.R. § 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> Attorney or agent of record <u>37,515</u><br/>(Reg. No.)</p> <p><input type="checkbox"/> Attorney or agent acting under 37CFR 1.34.<br/>Registration number if acting under 37 C.F.R. § 1.34 _____</p> </div> <div style="width: 45%; text-align: center;"> <p>_____<br/>Signature</p> <p><b>Joseph A. Rhoa</b><br/>_____<br/>Typed or printed name</p> <p><b>703-816-4043</b><br/>_____<br/>Requester's telephone number</p> <p><b>July 10, 2006</b><br/>_____<br/>Date</p> </div> </div> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.*</p> <p><input checked="" type="checkbox"/> *Total of <b>1</b> form/s are submitted.</p> |   |   |

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of

KIMURA et al

Atty. Ref.: 1035-471; Confirmation No. 4479

Appl. No. 10/670,194

TC/A.U. 2811

Filed: September 26, 2003

Examiner: Im, Junghwa

For: CHIP-STACK SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD OF  
THE SAME

\* \* \* \* \*

July 10, 2006

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Pursuant to the OG Notice of July 12, 2005, applicant hereby requests a pre-appeal brief review of this case for at least the following reasons.

**REMARKS**

Applicant, pursuant to the OG Notice of July 12, 2005, hereby requests a pre-appeal brief review of this case for at least the following reasons.

**Claim 1 - Art Rejection**

Claim 1 stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Tsunashima in view of Yu. Applicant notes that “Yu” appears to be 6,028,367 – not the 6,518,669 mentioned on page 3 of the Office Action dated February 9, 2006. The Office Action contends that Tsunashima discloses all features of claim 1 except for “multiple through electrodes formed in a region within the electrode pads.” To account for this alleged deficiency in Tsunashima, the Office Action cites to plugs 28 of Yu, and contends that plugs 28 are formed within metal pads 22, 26. This Section 103(a) rejection is respectfully traversed for at least the following reasons.

Claim 1 requires “chip-stack semiconductor device, comprising: multiple semiconductor chips vertically stacked on top of each other, wherein: each of the semiconductor chips includes electrode pads, and multiple through electrodes formed in a region *within* the electrode pads.” The cited art fails to disclose or suggest the invention of claim 1 in this respect.

The Office Action relies on Yu for this alleged feature. However, with respect to claim 1, referring to Fig. 2 of Yu it is clear that the plugs 28 are not formed “within” the metal pads 22, 26. It is well known that the word “within” means “in or into the interior” (e.g., see Merriam-Webster dictionary). Yu (and thus the alleged Section 103(a) combination) fails to disclose or suggest this feature. Instead, plugs 28 in Yu are formed on (on top or below) the metal pads 22, 26 – not “within” pads as called for in claim 1. Yu from col. 5, line 69 to col. 6, line 9 indicates that a plurality of metal via plugs are deposited on top of the first metal pad 26, and that the

second metal pad 24 is then also deposited on top of the via plugs 28, thereby making clear that plugs 28 in Yu are formed on (on top or below) the metal pads 22, 26 – not “within” pads as called for in claim 1.

Thus, it will be appreciated that in Yu, plugs 28 are not formed in a region “within” the electrode pads as required by claim 1. Thus, even the alleged combination (which applicant believes would be incorrect in any event) fails to meet the invention of claim 1.

Additionally, there are no through electrodes extending through pads 7 in Tsunashima. Thus, Tsunashima teaches directly away from the invention of claim 1 because the reference does not even use through-electrodes which extend through and within pads 7. Tsunashima does not disclose or suggest any through electrode extending through any pad 7, let alone multiple through electrodes extending through a given pad as required by claim 1. Citation to Yu cannot overcome the flaws of Tsunashima. Because Tsunashima does not have any through electrodes extending through pads 7, there is no reason why one of ordinary skill in the art would have ever modified Tsunashima to have such through electrodes – there is simply no reason or suggestion in the art for doing so. In particular, there is nothing below pads 7 in Tsunashima that requires electrical connection. Furthermore, there is nothing in Yu which suggests modifying Tsunashima in such a manner. The Section 103(a) rejection is flawed for this additional reason.

Claim 20

Claim 20 requires that “a plurality of different through electrodes are provided in the first electrode pad, so that when viewed from above the plurality of through electrodes are located inside a periphery of the first electrode pad.” The cited art fails to disclose or suggest this feature either taken alone or in combination. It is clear that even the plugs 28 of Yu are not provided *in* a first electrode pad (instead, they are on top of pad 26). Thus, even the alleged combination

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(which applicant believes would be incorrect in any event) fails to meet the invention of claim  
20.

Conclusion

It is respectfully requested that all rejections be withdrawn. All claims are in condition  
for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone  
the undersigned with regard to the same.

Respectfully submitted,

**NIXON & VANDERHYTE P.C.**

By: 

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